Remarks/Arguments

Reconsideration of this application is requested.

Specification

The Abstract is objected to as exceeding 150 words and as having language that is not clear and concise. In response, the Abstract is amended to have less than 150 words and to be clear and concise.

Claim Status

Claims 1-17 are pending. Claims 14 and 17 are amended, and claim 15 is canceled without prejudice. Claims 1-14, 16 and 17 are now pending.

Claim Rejections – 35 USC 102 and 103

Claims 1-4, 11-15 and 17 are rejected under 35 USC 102(b) as anticipated by Igarashi (US 5,564,387). Claims 14-17 are rejected under 35 USC 102(b) as anticipated by Takao (US 4,725,954) and also as anticipated by Tanaka (US 4,858,136). Claims 5 and 16 are rejected under 35 USC 103(a) as obvious over Igarashi in view of Tanaka. Claims 6-10 are rejected as obvious over Igarashi in view of Kobayashi (JP 2002-122040).

Claims 1-13

Independent claims 1, 6, 8, 10 and 11 recite:

> ...a controlling unit for synchronizing a drive reference position for driving to open or close the control valve with a timing of detecting the intake pressure by the intake pressure detecting unit...

Thus, with reference to applicant's FIG. 1, controlling unit 15 synchronizes a drive reference position for driving to open or close control valve 13 in auxiliary intake path 12 with a timing of detection of intake pressure in intake path 8 by intake pressure detecting unit S1. As explained at page 4, line 22 to page 5, line 5, this prevents erroneous detection by intake pressure detecting unit S1 of pressure fluctuations caused by opening and closing control valve 13, thereby providing stable idling rotation.

Igarashi provides no teaching of synchronizing the timing of detection of intake pressure with opening or closing the control valve. Igarishi's opening degree setting block 24 supplies a duty ratio D of pulse signals to idling speed control (ISC) valve 10 corresponding to the opening degree of ISC valve 10. The duty ratio D is derived from the estimated amount Qi of air passing through ISC valve 10 and the present intake air pressure PO(t). See Igarishi, col. 4, lines 61-67. However, Igarishi provides no disclosure or teaching concerning the timing of detection of intake air pressure PO(t), and therefore cannot disclose that such timing should be synchronized with driving to open or close ISC valve 10.

Since Igarishi does not disclose each and every feature of claims 1 and 11, it cannot anticipate claims 1 and 11 or claims 2-4, 12 and 13 dependent thereon. The rejections of claims 1-4 and 11-13 under 35 USC 102(b) should accordingly be withdrawn.

Tanaka is cited against claim 5, in combination with Igarishi, as disclosing asynchronous injection. However, Tanaka does not remedy Igarishi's failure to disclose the synchronization of the timing of detection of intake air pressure, as discussed above. Accordingly, the rejection of claim 5 under 35 USC 103(a) should be withdrawn.

Kobayashi is cited against claims 6-10, in combination with Igarishi, as disclosing a stroke determining unit based on an intake pressure signal. However, independent claims 6, 8 and 10 each include the above-discussed limitation of synchronizing a drive reference position for driving to open or close the control valve with a timing of detecting the intake pressure. Kobayashi does not remedy the deficiency of Igarishi in this regard. Accordingly, the rejections of claims 6-10 under 35 USC 103(a) should be withdrawn.

Moreover, dependent claim 9 recites that the drive reference position is brought about once for each rotation of a crank before finishing to determine the stroke and brought about once for each two rotations of the crank after finishing to

determine the stroke. Neither Kobayashi nor Igarishi contains any such teaching. Accordingly, claim 9 is allowable for this additional reason.

Claims 14-17

Independent claim 14 is amended to incorporate the limitations of claim 15 (which is canceled without prejudice) and to recite that the intake pressure difference threshold is changed depending on the engine rotational speed. Reference is made to applicant's FIG. 10 in this regard. None of Igarashi, Takao or Tanaka teach changing the intake pressure difference threshold (which when exceeded, fuel supply is increased) in dependence on the engine rotational speed.

Since none of Igarishi, Takao or Tanaka disclose each and every feature of claim 14, claim 14 and claims 16 and 17 dependent thereon cannot be anticipated by Igarishi, Takao or Tanaka. The rejections of these claims under 35 USC 102(b) should accordingly be withdrawn.

Tanaka is cited against claim 16, in combination with Igarishi, as disclosing asynchronous injection. However, Tanaka does not remedy Igarishi's failure to disclose changing the intake pressure difference threshold in dependent on the engine rotational speed. Accordingly, the rejection of claim 16 under 35 USC 103(a) should be withdrawn.

Conclusion

This application is believed to be in condition for allowance. The Examiner is invited to contact the undersigned to resolve any issues that remain after consideration and entry of this amendment.

Any fees due with this response may be charged to our Deposit Account No. 50-1314.

Respectfully submitted,
HOGAN & HARTSON L.L.P.

Date: August 15, 2007

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